01/09/2007

ASARCO

Linda Jacobson
RCRA Project Manager
US EPA Region VIII
8ENF-T
1595 Wynkoop Street
Denver, Colorado 80202-1129

January 9, 2007

SENT BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

CONSENT DECREE
CIVIL ACTION NO. CV 98-3-H-CCL
EAST HELENA SITE
WORK PERFORMED IN DECEMBER 2006
PROGRESS REPORT #105

Dear Ms. Jacobson:

On May 5, 1998, Asarco and the United States Environmental Protection Agency (EPA) entered into a Consent Decree (Decree) to further the objectives of the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CWA). Section XI of the Decree (Reporting: Corrective Action) requires Asarco to submit certified monthly progress reports to EPA which discuss the actions taken by Asarco in achieving compliance with the Decree. The reports are to be submitted to EPA no later than the twentieth (20^{th}) day of the following month. The following describes only those activities that have occurred or are related to projects performed during December 2006. The historical actions taken by Asarco is achieving compliance with the Decree are contained in previous monthly progress reports.

a. Describe the actions, progress, and status of projects which have been undertaken pursuant to Part VII of the Decree;

Dr. Douglas LaBrecque (Multi-Phase Technologies, Inc) has prepared a brief description of the study results from the testing of the Permeable Reactive Barrier (PRB) wall located at the East Helena site. MPT's discussion has been attached to this monthly progress report.

Pursuant to your December 5, 2006 request to Asarco, EPA was provided with the City of East Helena and Lewis and Clark County contact information in which public documents relating to the Asarco East Helena Plant may be sent.

ASARCO LLC - East Helena Plant
100 Smelter Road, P.O. Box 1230, East Helena, MT 59635
Tel (406) 227-4098
Fax (406) 227-2256

2006 Interim Measures Work Plan Addendum

On November 11, 2006, Shaw Environmental, Inc, completed the slurry wall construction in the former acid plant sediment drying area. The slurry wall construction completion report from Shaw Environmental has been attached to this monthly progress report. An addendum to this construction report will be submitted when the final permeability results are received from the long-term permeability test.

On November 20, 2006, Shaw Environmental, Inc. mobilized the interim capping crew. In December 2006, Shaw Environmental, Inc. completed the hauling, backfilling, and grading of fumed slag in the former acid plant sediment drying area and sinter plant area. The capping materials including the non-woven geotextile, OR RPE liner, well boots, sand bags, and other miscellaneous capping supplies were delivered in early December 2006. The installation of the non-woven geotextile and OR RPE liner began the week of December 11, 2006 and was completed on December 20, 2006.

On December 4, 2006 and December 12, 2006, Envirocon, Inc. completed the cleaning and demolition of the Phase 2 dross plant and Phase 3 gas cleaning section of the acid plant. Shortly thereafter, Envirocon, Inc. commenced and completed hauling, backfilling, and grading of fumed slag in these two areas. On December 13, 2006, Northwest Lining and Geotextile Products, Inc. commenced installation of the interim cap in the two areas with completion of the project on or about December 22, 2006.

The 2006 Interim Measures Work Plan Addendum (September 2006) requires identification and collection of soil samples within demolition footprints that contain exposed soils. On December 6, 2006 and December 12, 2006, Hydrometrics collected surface soil samples from exposed soil areas in the footprint of the dross plant and acid plant areas, respectively. A total of five surface soil samples were collected from each area and composited into one representative sample of the area. Photographs were obtained of each exposed area and a brief description of the soil was recorded in the field book. The samples were submitted to Energy Laboratories for analyses of total metals and SPLP Extractable Metals. The metal analyzed included arsenic, cadmium, copper, lead, and zinc. The laboratory analytical report from Energy Laboratories, photographs, lithological description, and GPS locations for each of the exposed soil sample locations are attached to this monthly progress report.

Pump and Treat Pilot Test

In November 2006, Asarco provided the Final Report of Results of the East Helena Pump and Treat Pilot Test to EPA and MDEQ. Over the next several months, Asarco will analyze the aquifer characteristics derived from the pump down tests to determine the potential application of the pump and treat technology at the East Helena site.

Corrective Action Management Unit (CAMU)

In August 2006, Asarco submitted the first 5-year, periodic Technical Inspection Report of the CAMU Phase 1 Cell. On December 5, 2006, Asarco and EPA representatives participated in a conference call to discuss EPA's comments on the Report. Based on that conversation, Asarco has assembled responses to these comments, which have been incorporated into the revised Report (dated December 2006). A copy of the revised Report has been attached to this monthly progress report. The revised Report contains an electronic copy of the statistical calculations that Randy Breeden requested. The Design Analysis Report for the CAMU Phase 2 Cell is being finalized and will be submitted in January 2007.

RI/FS Long-Term Monitoring Program

During December 2006, Asarco finalized the semi-annual long-term monitoring as prescribed in Asarco's on-going Post Remedial Investigation (RI)/Feasibility Study (FS), Long Term Monitoring Program. Eight groundwater samples were sampled and submitted to Energy Laboratories on December 4, 2006. Samples were collected from five wells (DH-21, TW-1, DH-12, DH-36, and DH-17) and three quality control samples were collected (DH-36 duplicate, DI Blank, and a rinsate Blank). Monitoring wells DH-13 and DH-18 were not sampled since the wells were frozen over. On December 8, 2006, six surface water samples were submitted to the laboratory from the following sites: PPC-8, PPC-7, PPC-5, Lower Lake, PPC-103, and PPC-3A. In addition to the surface water sites, three quality control samples were submitted to the laboratory (PPC-5 duplicate, DI blank, and ERA standard).

During December 2006, Asarco continue with the sampling program set forth in the Updated Monitoring Program - October 2006. Based on EPA's December 6, 2006 e-mail, Asarco added selenium to the list of parameters contained in the Updated Monitoring Program - October 2006. Under this program, the Nordstrom and Jones' irrigation groundwater wells and the Corbett and Jensen residential groundwater drinking water wells were scheduled to be sampled. The two irrigation wells located at the Nordstrom and Jones' homes were winterized and could not be sampled during December 2006. On December 21 and 22, 2006, groundwater well samples were obtained from the Jensen and Corbett drinking groundwater wells, respectively. The analytical dissolved arsenic and selenium results obtained from the Corbett and Jensen groundwater wells are summarized in the following table. The validation summary for these samples is attached to this monthly progress report.

Location	Total Dissolved Arsenic	Total Dissolved Selenium
Corbett - 203 Gail Street		
- Original	< 2 ppb	< 5 ppb
- Duplicate	< 2 ppb	< 5 ppb
Jensen - 401 Gail Street		
- Original	< 2 ppb	14 ppb
- Duplicate	2 ppb	16 ppb

A summary of the correspondence transmitted as part of the East Helena Consent Decree in December 2006 is included in Attachment 1.

b. Identify any requirements under the Part VII of the Decree that were not completed in a timely manner, and problems or anticipated problem areas affecting compliance with the Decree;

High winds presented unsafe working conditions and prevented the installation of the OR RPE liner in the acid plant sediment drying area and sinter plant areas from December 13, 2006 through December 16, 2006. This unforeseen weather event did not compromise the overall schedule for installing the interim cap by the end of December 2006. There were no requirements that were not completed in a timely manner nor were there problems or anticipated problem areas that affect compliance with the Decree.

c. Describe projects completed during the prior month, as well as activities scheduled for the next month;

In accordance with the 1) 2006 Interim Measures Work Plan Addendum, Final Cleaning, Soil Sampling, Backfilling, and Interim Cap Work Plan and 2) 2006 Interim Measures Work Plan Addendum, Former Acid Plant Sediment Drying Area Slurry Wall, Monitoring, Operation, and Maintenance Work Plan, four areas in which interim caps have been installed are being inspected on a monthly basis with the most recent inspections occurring on December 4, 2006. These monthly inspections documented the condition of the interim caps. The installation of the interim caps commenced in early December 2006 but had not been completed at the time of the December 4, 2006 inspection.

CAMU Landfill - The construction of the CAMU Phase 1 Cell landfill is complete. The Final Construction Report for the CAMU Phase 1 Cell was hand-delivered to EPA on January 23, 2002. In accordance with the July 2000 CAMU Design Analysis Report (Operation and Maintenance Plan), the CAMU is being inspected monthly with the last inspection occurring on December 6, 2006. This monthly inspection documented the condition of the CAMU.

During January 2007, Asarco is scheduled to conduct the monthly sampling of the four designated residential groundwater wells as prescribed in Asarco's revised

on-going Post Remedial Investigation (RI)/Feasibility Study (FS), Long Term Monitoring Program. Shaw and Envirocon will assemble the as-built interim cap drawings for the former acid sediment drying area, dross plant area, sinter plant area, and gas cleaning section of the acid plant during January 2007. Asarco will be submitting the Design Analysis Report for the CAMU Phase 2 Cell in January 2007.

d. Describe and estimate the percentage of studies completed;

The Pump and Treat Pilot Scale Testing for Source Area Reduction of Groundwater Contamination is approximately 100% complete.

The slurry wall construction in the former acid plant sediment drying area is 100% complete.

The interim capping project for the former acid plant sediment drying area, dross area, sinter plant area, and gas cleaning section of the acid plant is 100% complete

e. Describe and summarize all findings to date;

The details of past findings through November 2006 are described and summarized in previous monthly progress reports.

f. Describe actions being taken to address problems;

There were no actions required to address problems associated with the Decree.

g. Identify changes in key personnel during the period;

Asarco continues to use the services of Asarco technical personnel and Hydrometrics Incorporated to perform the various activities required under the Consent Decree. The Consent Decree activities will continue to be administrated under the direction of Robert Miller.

h. Include copies of the results of sampling and tests conducted and other data generated pursuant to work performed under Part VII of the Decree since the last Progress Report. Asarco may submit data that has been validated and confirmed by Asarco to supplement any prior submitted data. Updated validated and confirmed data shall be included with the RFI Report, if not delivered before;

Four validation packages, entitled "*Validation Summary, Asarco East Helena, Post RI/FS Long-Term Monitoring Project, Surface Water, Groundwater, and CAMU Well, Semi-Annual Sampling Event, September 2006*, and "*Validation Summary, Asarco East Helena Interim Measures, East Helena Residential Groundwater, Inorganic Analyses, November 2006*" and "*Validation Summary,*

Asarco East Helena, Interim Measures, East Helena Residential Groundwater, Inorganic Analyses, December 2006 " and *"Validation Summary, Asarco East Helena, Post RI/FS Long-Term Monitoring Project, Surface Water, Groundwater, and CAMU Well, Bi-Annual Sampling Event, Inorganic Analyses, November/December 2006* are attached to this progress report.

i. **Describe the status of financial assurance mechanisms, including whether any changes have occurred, or are expected to occur which might affect them, and the status of efforts to bring such mechanisms back into compliance with the requirements of this Decree.**

ASARCO filed a voluntary petition for relief under chapter 11 of Title 11 of the United States Bankruptcy Code in the Southern District of Texas on August 9, 2005. ASARCO hopes to use its chapter 11 bankruptcy proceeding to improve its financial position to the point where it can successfully reorganize and immerge from bankruptcy. ASARCO further hopes that at that time it will be in a position to make the required financial assurance demonstration.

Sincerely,

Jon Nickel

Cc: Denise A. Kirkpatrick, MDEQ

CERTIFICATION
PURSUANT TO U.S. v ASARCO INCORPORATED
(CV-98-3-H-CCL, USDC, D. Montana)

I certify under penalty of law that this document, December 2006 Progress Report and all attachments, were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Signature 
Name: Thomas L. Aldrich
Title: Vice President Environmental Affairs
Date: January 9, 2007

CONSENT DECREE
EAST HELENA SITE
DECEMBER 2006 PROGRESS REPORT

SUMMARY OF CORRESPONDENCE
ATTACHMENT 1

DATE OF TRANSMITTAL	CORRESPONDENCE SENT FROM	CORRESPONDENCE SENT TO	SUBJECT	RESPONSE
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Multi-Phase technologies, Inc Progress Report	No Formal Response Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Construction Completion Report - Former Acid Plant Sediment Drying Area Slurry Wall	Approval of Final Report is Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Technical Report - Exposed Soils in Phase 2 and 3 Demolition Footprint	No Formal Response Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Technical Inspection Report - CAMU Phase 1 Cell (December 2006)	Approval of Revised Report is Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Validation Summary, Asarco East Helena Interim Measures, East Helena Residential Groundwater, Inorganic Analyses, November 2006	No Formal Response Required

Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Validation Summary, Asarco East Helena Post RI/FS Long-Term Monitoring Project, Surface Water, Groundwater and CAMU Wells, Semi-Annual Sampling Event, Inorganic Analyses, September 2006	No Formal Response Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Validation Summary, Asarco East Helena Interim Measures, East Helena Residential Groundwater, Inorganic Analyses, December 2006	No Formal Response Required
Attached to This Monthly Progress Report	Jon Nickel	Linda Jacobson	Validation Summary, Asarco East Helena, Post RI/FS Long-Term Monitoring Project, Surface Water, Groundwater, and CAMU Well, Bi-Annual Sampling Event, Inorganic Analyses, November/December 2006	No Formal Response Required

December 2006 RCRA Consent Decree Progress Report

Multi-Phase Technologies, Inc. Progress Update

Multi-Phase Technologies, Inc. (MPT)
December 2006

Multi-Phase Technologies, Inc. (MPT) personnel visited the East Helena site in early December in order to replace faulty antenna cable and wireless card for the wireless networking connection. The up-gradient and down-gradient wells were re-instrumented with high quality Electrical Resistivity Tomography (ERT) cables. MPT revised the data acquisition schedule to include fully three-dimensional (3-D) data collection, in addition to monitoring of arrays imbedded in the barrier.

We completed initial inversions of recent 3-D data sets collected at the barrier. The figure on the following page shows an image of the 3-D resistivity structure for a section extending from 7 to 15 below ground surface and 6 m along the barrier. The innermost blue region shows the region of electrical resistivity below 1 Ohm-m and the outer transparent region resistivities below 20 Ohm-m, which roughly outlines the location of the barrier. The background resistivity (not shown) is about 100 Ohm-m. The view is looking roughly northward.

Note that the work carried out by MPT at East Helena is part of a larger project to understand the relationships between the natural aging of barriers and the geophysical signatures of the barriers. Generally, older barriers show lower electrical resistivity than younger barriers. At this site, clearly the geophysical signature is different between the upper and lower portions of the barrier. From our preliminary investigations, it appears that the resistivity of the upper part of the barrier is closer to our expectations for typical barriers. East Helena is very important as it is the youngest barrier in the study and to the best of our knowledge is the only barrier with this level of ongoing 3-D monitoring. Our plan is to continue monitoring the barrier to determine the changes over time. We are also starting laboratory column studies to try to replicate these results.

Color Chart(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, contact the Region VIII Records Center at (303) 312-6473.

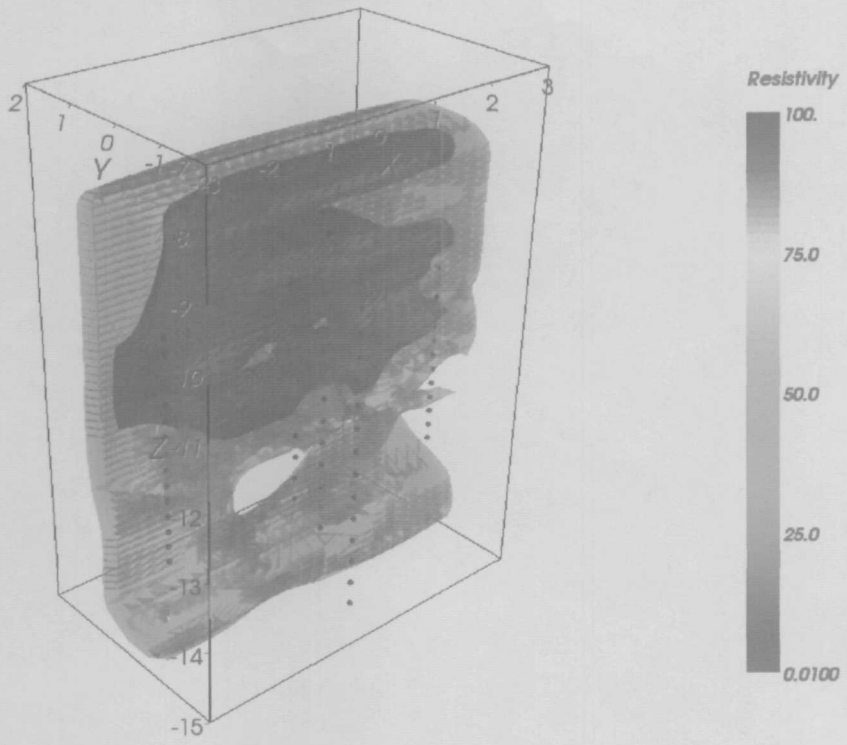

Figure 1. 3-D Image looking north of electrical resistivity for the PRB at East Helena showing the barrier from 7 to 15 m below ground surface. The Inner volume cutoff is 1 Ohm-m and the outer volume is 20 Ohm-m. Electrode locations are shown as red dots.